

REMARKS

Claims 1-13 are pending in the present application and stand rejected.

Claims 1-5 and 7-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Haneda et al. (U.S. Patent No. 5,539,731) (hereinafter “Haneda 1”).

Claims 6 and 12-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Haneda 1 in view of Haneda et al. (U.S. Patent No. 5,721,772) (hereinafter “Haneda 2”).

The rejections are respectfully traversed, and Examiner’s reconsideration is respectfully requested in view of the following remarks.

I. The “state decision part 24a” is not part of the “echo canceling part 30” as shown in Haneda 1.

The Office Action argues the “state decision part 24A” of Figure 13 of Haneda 1 anticipates “at least one adaptive filter,” as claimed in claim 1. It is important to note here that Figure 13 includes two parts: (1) “an echo canceling part 30”; and (2) “an adaptive control part 20.” (Haneda 1, col. 15, lines 50-53). As shown in Figure 13 of Haneda 1, the “state decision part 24A” is part of the “adaptive control part 20,” and not “the echo canceling part 30.” Thus, the recited portions of Haneda 1 do not anticipate “[a]n *echo canceler*, comprising: at least one adaptive filter,” as claimed in claim 1.

II. The recited portions of Haneda 1 do not anticipate “at least one adaptive filter for extracting at least one echo signal from speech signals,” as claimed in claim 1.

The Office Action argues that the “state control part 24A” and col. 15, line 60 – col. 16, line 55 of Haneda 1 anticipates “at least one adaptive filter for extracting at least one echo signal from speech signals.” Applicant disagrees.

The Abstract of Haneda 1 states: “a p-order fast projection algorithm which subtracts an estimated echo signal $\hat{y}(k)$ from a microphone output signal $u(k)$ to obtain an error signal $e(k)$.” Figure 13 of Haneda 1 shows that the estimated signal $\hat{y}(k)$ is calculated in the “echo canceling part 30” of Haneda 1. This is further supported by the text of Haneda 1:

Next, in the estimated echo path 32 the convolution of the estimated impulse response $h(k)$ and the received speech signal $x(k)$ is conducted to synthesize an estimated echo signal $y(k)$. In a subtractor 33 the estimated echo signal $\hat{y}(k)$ is subtracted from the microphone output $u(k) = y(k) + n(k)$ to the microphone 16 to obtain an error signal $e(k)$.

(Haneda 1, col. 4, lines 7-10). Clearly, the argument by the Office Action that the “state decision part 24A” of Figure 13 of Haneda 1 extracts at least one echo signal is without merit. Thus, the recited portions of Haneda 1 do not anticipate “at least one adaptive filter for extracting at least one echo signal from speech signals,” as claimed in claim 1.

III. Haneda 1 does not disclose “at least one update control means for selectively updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal,” as claimed in claim 1.

The Office Action argues that the “at least one filter coefficient” of claim 1 is anticipated by the “filter coefficient $\hat{h}(k)$ ” of Haneda 1. Claim 1 claims, *inter alia*, “at least one filter coefficient of the at least one adaptive filter.” Based on the argument posed by the Office Action that the “state decision part 24A” of Figure 13 of Haneda 1 anticipates the “at least one adaptive filter” of claim 1, it follows that the Office Action is

effectively arguing that the “filter coefficient $\hat{h}(k)$ ” is part of the “state decision part 24A.” Applicant disagrees.

The Office Action cites col. 18, line 38 – col. 19, line 4 of Haneda 1 in support of its argument. The recited portions of Haneda 1 disclose that the “filter coefficient $\hat{h}(k)$ ” is set in the “FG side estimated echo path 41.” The recited portions of Haneda 1 do not disclose that the “filter coefficient $\hat{h}(k)$ ” is part of the “state decision part 24A.”

Further, the Office Action does not address which portion Haneda 1 or which block in Figure 14 anticipates the “the at least one update control means,” as claimed in claim 1. The Office Action provides only a broad, generic citation of Haneda 1 to anticipate the “at least one update control means,” as claimed in claim 1. Applicant is effectively left to guess as to which part of the recited portion of Haneda 1 and which block in Figure 14 the Office Action is arguing anticipates the “update control means” of claim 1. It is submitted that the Applicant can not understand or address the rejections with such an overbroad rejection. It is submitted that the Office Action must address *each and every* limitation of the claims with proper citation to the prior art.

Nevertheless, after a review of Haneda 1, the recited portions of Haneda 1 discuss only *setting* a “filter coefficient $\hat{h}(k)$ ” in the “FG side estimated echo path 41.” Neither Figure 14 nor the recited portion of Haneda 1 show an “update control means for *selectively updating*” the “filter coefficient $\hat{h}(k)$.” Thus, it follows that the recited portion of Haneda 1 does not address “at least one update control means for selectively updating at least one filter coefficient of the at least one adaptive filter *in response to the at least one power value and the at least one error signal*,” as claimed in claim 1.

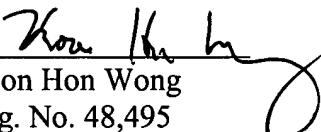
V. Conclusion

Accordingly, claim 1 is believed to be patentably distinguishable over Haneda 1. Independent claim 7 and dependent claims 2-5 and 8-11 are believed to be allowable for at least the reasons given for claim 1. Dependent claims 6 and 12-13 are believed to be allowable over the combination of Haneda 1 and Haneda 2, assuming they are even properly combined, as depending from allowable claims 1 and 7. Withdrawal of the rejections of claims 1-5 and 7-11 under 35 U.S.C. §102(b) and claims 6 and 12-13 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,

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